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Dear Chairman Mayes and Commissioners:

As the theme of the last US Presidential election, change was used to draw a distinction between opposing factions. But in reality, a lot of 'change' will take place in the world over the next few decades. Building a new more intelligent electricity system will require many changes, one of which is mastering the storage of electric power throughout the grid. – Brad Roberts, Power Quality Systems Director at S&C Electric Company, Chairman of the Board of Directors for the Electricity Storage Association, member of the US Department of Energy Electricity Advisory Committee and Chairman of the Energy Storage Sub-committee.

In a letter addressed to this Commission, Deborah Fain, President of SBBI Construction, did a remarkable job of making a case for the use of renewable energy sources in the Mountain Empire and in detailing the community's goal of becoming a model rural community for renewable energy. There is absolutely no doubt that this nation and it's communities have come to a point where it is time to realize the benefits of generating electricity from renewable sources, most notably solar and wind power.

Throughout her letter she did an excellent job of highlighting companies, both large and small, who have found success in the utilization of renewable sources and found that it is a benefit both environmentally, and to the bottom line. What was not mentioned in her letter, was the huge benefits that can be realized with the coupling of these renewable sources, namely solar, with energy storage. Energy storage can reduce the amount of generation and transmission capacity that would otherwise need to be built. It can help to relieve uncertainty in the power market by providing a scheduled resource, thereby helping consumers to avoid high prices, it can increase reliability and security and create new choices and opportunities for both consumers and investors.

Approximately 30% of electricity traveling along power lines is dissipated and never reaches the ultimate destination. Is the construction of a new power line really the best use of $14,000,000.00 when such a large amount of the power never reaches those that would benefit from it? There are much smarter uses of these funds, be it the coupling of storage with solar panels at individual residences, the construction of a solar array teamed with a storage solution or simply a storage solution that stores cheap, off-peak electricity and feeds it back into the grid at peak use times.

Traditionally there is a four-six hour solar window where the panels are able to collect the maximum amount of power, the thought has been that if the power was not utilized at the time it was collected, it was going to waste. This in fact is not the case. Paired with an energy storage system such as lithium-ion battery cells the power collected can be stored for use at any time Beyond this, any power that is not utilized can be fed back into the grid in a peak-shaving capacity. By distributing generation and storage in this manner, the stress can be lifted off of the electricity generating power plants.

One CA municipality has stated that "The goal is to build a super-stable utility grid." The City has installed a pilot project testing a 50-kW lithium ion energy storage system operating since June, 2008. Two solar photovoltaic (PV) systems totaling 75 kW will feed power into the energy storage system, and during peak electricity usage periods the storage system will discharge the power into the grid. Both solar arrays are located near the energy storage system in a park where a 28-kW solar PV array was installed on a roof with an undulating architectural design that shades picnic tables. A second nearby 47-kW array is ground mounted. Their grid is not growing for several reasons, including resistance from neighborhoods. This particular municipality is tapping into renewable sources, it is rewarding conservation, and it is already offering incentives to commercial and industrial customers to turn on generators or shut off loads during peak periods. The utility would also like to offer incentives to customers who install solar systems to also install energy storage systems, including residential customers. Customers would be encouraged to dispatch stored energy when called upon by the utility. During the pilot phase, the utility will be evaluating the dollar value of the $100,000 energy storage system in terms of the savings it brings to the utility. It will experiment with peak shaving, load shifting, and firming up power as it adds wind resources to its generation mix. During the weekdays when electrical usage is at its peak at 7 pm, the stored energy is sent to the grid to supply additional power and flatten the peak loads. Energy is replaced in the batteries at night when power costs are at their lowest. On weekends, the load profile peaks during the day, so power is fed into the grid earlier. The City is applying for grants, including federal Department of Energy stimulus money, to fund three combination solar/energy storage projects and a single energy storage unit. With enough energy storage systems connected to the grid, the utility would have a critical load supply serving as standby. The utility now has 100 customers sending power to the grid, and 28 new projects are in customers' planning stages.

There is absolutely no doubt that there is a more advantageous, more environmentally friendly and more cost-effective way to accomplish the stated goal than to construct a $14,000,000.00 69 kV power line. Delaying this project to work toward finding and implementing that alternative is the prudent course of action for all involved.

Sincerely,

P. Jason Lentz